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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,758	06/11/2007	Akihisa Terano	XA-10625	9497

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MILES & STOCKBRIDGE PC
1751 PINNACLE DRIVE
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EXAMINER	
ROJAS, BERNARD	
ART UNIT	PAPER NUMBER
2832	

NOTIFICATION DATE	DELIVERY MODE
12/26/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocketing@milesstockbridge.com
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Office Action Summary	Application No.	Applicant(s)	
	10/589,758	TERANO ET AL.	
	Examiner	Art Unit	
	BERNARD ROJAS	2832	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08172006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5, 9, 10, 13, 14, 16 and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Nathanson et al. [US 7,102,472].

Claim 1, Nathanson et al. discloses a capacitance type MEMS device [figure 6] comprising: an a substrate [36]; a lower electrode [30] formed on the substrate; a dielectric film [38] formed on the lower electrode; a conductor layer [40] formed on the dielectric layer; and an upper electrode [31] opposed to the lower electrode and disposed at least with a gap relative to the conductor layer formed on the dielectric layer and controlled whether the upper electrode is in contact or non-contact with the conductor control layer formed on the dielectric layer [figure 6]; wherein the conductor layer formed on the dielectric layer is formed in a region where the upper electrode and the lower electrode are opposed such that a conductor layer formed on the dielectric layer is present in a portion of the opposed area as viewed in the direction perpendicular to the substrate, and wherein the area of the region where the conductor layer formed on the dielectric layer is present in the region where the upper electrode

and the lower electrode are opposed is equal to or smaller than the area of the region where the conductor layer formed on the dielectric layer is not present in the opposed region [figure 6].

Claim 2, Nathanson et al. discloses a capacitance type MEMS device comprising: a substrate [36]; a lower electrode [30] formed on the substrate; a dielectric film [38] formed on the lower electrode; a conductor layer [40] formed on the dielectric layer; and an upper electrode [31] opposed to the lower electrode and disposed at least with a gap relative to the conductor layer formed on the dielectric layer [figure 8] and controlled whether the upper electrode is in contact or non-contact with the conductor layer formed on the dielectric layer; wherein the conductor layer [40] formed on the dielectric layer is connected through a resistor [62] relative to high frequency signals to a desired potential with respect to direct current [figure 8].

Claim 5, Nathanson et al. discloses a capacitance type MEMS device according to claim 2, wherein the desired potential is provided by connection with respect to direct current of the conductor formed on the dielectric layer to, the lower electrode [figure 8].

Claim 9, Nathanson et al. discloses a capacitance type MEMS device according to claim 1, wherein the conductor layer formed on the dielectric layer is made of a single layered film at least containing gold or a plurality of metal lamination films including a gold-containing film [col. 3 line 44].

Claim 10, Nathanson et al. discloses a capacitance type MEMS device according to claim 2, wherein the conductor layer formed on the dielectric layer is made of a single

layered film at least containing gold or a plurality of metal lamination films including a gold-containing [col. 3 line 44].

Claim 13, Nathanson et al. discloses a high frequency device in which the capacitance type MEMS device according to claim 1 is provided as an on/off switch for high frequency signals [abs].

Claim 14, Nathanson et al. discloses a high frequency device in which the capacitance type MEMS device according to claim 1is provided as an output changing switch for high frequency signals [abs, the switch is either open for passing a signal or closed blocking the passage of a signal].

Claim 16, Nathanson et al. discloses a high frequency device in which the capacitance type MEMS device according claim 1, an active device, a passive device, or both of the active device and the passive device are mounted on one substrate [abs].

Claim 17 is inherent in the product structure as described in claims 1 and 2 above by Nathanson et al.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3, 4, 6-8, 11, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nathanson et al. [US 7,102,472].

Claims 3 and 4, Nathanson et al. discloses the claimed invention except for the claimed value of the resistor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the value of the resistor to filter out unwanted signal components, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Claim 6, Nathanson et al. discloses the claimed invention except for conductor layer formed on the dielectric layer having an opening. It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the shape of the conductor layer since applicant has not disclosed that an opeing ion the conductor layer solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the conductor layer as shown by Nathanson et al.

Claims 7, 8, 11 and 12, Nathanson et al. discloses the claimed invention with the exception of the material used to create the conducting layer. It would have been obvious to one of ordinary skill in the art at the time the invention was made to change the composition of the conducting layer from gold as disclosed by Nathanson et al. to any other conductive metal material, since applicant has not disclosed that using aluminum or copper solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with gold as shown by Nathanson et al.

Claim 15, Nathanson et al. discloses the claimed invention except for its claimed use in a mobile telephone. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Mem switch of Nathanson et al. in a various environments, including a mobile telephone, depending on the signal needed to be processed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BERNARD ROJAS whose telephone number is (571)272-1998. The examiner can normally be reached on M and W-F, 10:00-7:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elvin G Enad/
Supervisory Patent Examiner, Art Unit 2832

Br
/Bernard Rojas/
Examiner, Art Unit 2832